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ABSTRACT

A STUDY WAS CONDUCTED TO TEST FOUR HYPOTHESES: (1) THERE ARE DIFFERENCES IN THE TOTAL NUMBER OF INTERACTIONS THAT A TEACHER HAS WITH PUPILS WHOM SHE HAS RATED DIFFERENTLY. (2) THE TEACHER INTERACTS MORE DIRECTLY WITH THOSE PUPILS SHE RATES LOW THAN WITH THOSE SHE RATES HIGH. (3) THE TEACHER INTERACTS MORE INDIRECTLY FEWER TIMES WITH THOSE PUPILS SHE RATES LOW THAN WITH THOSE WHOM SHE RATES HIGH. (4) THE TEACHER USES MORE CRITICISM WITH THOSE PUPILS SHE RATES LOW THAN WITH THOSE WHCM SHE RATES HIGH. SUBJECTS WERE THE TEACHER AND 33 PUPILS OF A FOURTH GRADE CLASS. THE INVESTIGATOR RECORDED TEACHER-PUPIL INTERACTICN IN THE CLASSROOM TWO DAYS A WEEK FOR FIVE WEEKS USING A MODIFIED VERSION OF FLANDERS' INTERACTION ANALYSIS IN WHICH EACH INTERACTICN WAS SCORED WITH A NOTATION AS TO WHICH PUPIL(S) WERE INVOLVED. THE TEACHER'S RATING OF HER PUPILS WAS MEASURED BEFCRE AND AFTER THE OBSERVATION PERIOD USING KILPATRICK AND CANTRIL'S SELF-ANCHORING LADDER RATING SCALE. INTERACTICN FREQUENCIES WERE OBTAINED FCR EACH PUPIL IN EACH FLANDERS CATEGORY AND CATEGORY GROUP. DATA WERE ANALYZED USING NEWMAN KEUL TEST, KENDALL COEFFICIENT OF CF CONCORDANCE, AND ANALYSIS OF VARIANCE TO DETERMINE THE EXISTING RELATICNSHIP BETWEEN THE INTERACTICN FREQUENCIES AND COMBINED LADDER RATINGS OF EACH PUPIL. HYPOTHESES 1, 2, AND 4 WERE CONFIRMED, INDICATING THAT OBSERVABLE VERBAL PUPIL-TEACHER INTERACTION PATTERNS MAY BE AN IMPORTANT MEANS OF COMMUNICATING TEACHER EXPECTANCIES TO PUPILS. (JS)

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PEABODY PAPERS IN HUMAN DEVELOPMENT

The Relations Between Classroom Interaction and Teacher Ratings of Pupils: An Exploration of One Means by Which a Teacher May Communicate Her Expectancies*

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Over the past several years there has been a substantial increase in the attention paid to the role and effects of teacher expectancy in the classroom. Holt (1964) dealt with the role played by teachers' daily communication of their desires and attitudes. The effect of teachers' expectancies was the subject of Brown's (1965) account of his school experiences and Clark's (1965) discussion of middle class teachers in ghetto schools. Intelligence and achievement tests were seen by Crescimbeni (1967) and Rosenthal and Jacobson (1968) as influential sources of teacher expectations, and Dunn (1968) discussed the detrimental effects of the labels placed on handicapped children.

The effects of teacher expectancies have been documented by several researchers. Clark (1965) reported the positive results of pilot projects in New York and St. Louis designed to change teachers' attitudes and perspectives with respect to ghetto children. Arbitrary assignment of students to advanced academic sections resulted in their achieving at a higher academic level than those in a non-advanced section (Flowers, 1966). In a similar study, Beez (1967) found that preschoolers in a Head Start program who were arbitrarily labeled as better intellectual prospects learned more symbols, the teacher having taught more symbols to them. Rosenthal and Jacobson (1968), in their classic study, showed that children randomly labeled "intellectual bloomers" were not only rated higher by their teachers but actually showed greater gains on a non-verbal IQ test.

It seems apparent that though expectancy effects have been recognized, and in some cases investigated, little has been done beyond the level of conjecture regarding the manner and means by which a teacher's expectancies are communicated to her pupils. Despite this paucity of research data, several media for expectancy communication have been suggested. A number of authors have dealt with the role of vocal and visual cues (Holt, 1964; Rosenthal, 1964; Rosenthal & Jacobson, 1968), and kinesthetic cues (Rosenthal, 1964). Orteza y Miranda (1967) and Rosenthal and Jacobson (1967) saw as important the overall language employed by the teacher. Several authors discussed the differential use of language, particularly with reference to the distribution of verbal rewards and punishments (Bany & Johnson, 1965; Rosenthal & Jacobson, 1966) and the amount and content of communication (Jackson & Lahaderne, 1967). Thus, differences in both the verbal and non-verbal content of interactions (e.g., those of the teacher with her pupils) have been considered to affect performance, measured attitudes, peer relationships, and general academic achievement.

There is then a suggestion in the literature of a salient relationship between differential expectancies and patterns of pupil-teacher interaction. However, investigations directed toward determining the nature of the relationship are virtually nonexistent.

The Study

The present study was an attempt to explore one means by which a teacher may communicate her expectancies to her pupils. On the basis of the aforementioned empirical and experimental evidence, it was proposed that the pattern of interaction that a teacher has with each pupil will be significantly related to her ratings of that pupil.

More specifically, the main hypotheses tested were:

1. There are differences in the total number of interactions that a teacher has with pupils whom she has rated differently.

2. The teacher interacts more directly with those pupils she rates low than with those she rates high.

3. The teacher interacts indirectly fewer times with those pupils she rates low than with those whom she rates high.

4. The teacher uses more criticism with those pupils she rates low than with those whom she rates high.

Methodology

Interaction in the classroom was measured with a modified version of Flanders (1960) Interaction Analysis, the system described by Medley and Mitzel (1963) as being the most sophisticated, i.e., valid, available.

The original version of the Flanders system provides 10 categories used by an observer to code the ongoing classroom pupil-teacher interaction at three-second intervals. The categories, briefly stated, are as follows:

Teacher Talk		
Direct Influence	1.	Accepts Feeling
	2.	Praises or Encourages
	3.	Accepts or Uses Ideas of Student
	4.	Asks Questions
Indirect Influence	5.	Lecturing
	6.	Giving Directions
	7.	Criticizing or Justifying Authority
Student Talk		
	8.	Response
	9.	Initiation
General		
	10.	Silence or Confusion

Though Flander's categories were used in their original form, several modifications were made in the techniques employed in observation and coding:

a) As far as possible, interactions were coded as naturally occurring units rather than being divided into three-second intervals; the exception was that interactions of a single type lasting longer than 10 seconds were recorded once for each 10 second period of their duration.

b) Rather than scoring interactions on the dichotomy of teacher-pupils (irrespective of which ones were involved) through the use of a pupil coding system each interaction was scored with a notation as to which specific pupil(s) were involved.

c) In tabulating the data, rather than using the elaborate matrix described by Flanders (1960), the results were expressed in terms of the frequency of occurrence for each Flander's category for each pupil.

The teacher's rating of her pupils was measured by use of Kilpatrick and Cantril's (1960) Self-Anchoring Ladder Rating Scale. The teacher was asked to describe her concepts of a typical "worst student" and a typical "best student" without referring to any real pupil. Then, using these concepts as the lower and upper

points, respectively, of a ten-step scale, she assigned all the pupils in her room a number, from one to 10, according to where she felt they were on the scale.

Procedure

The study itself involved the teacher and 33 pupils of a fourth grade class in a small elementary school in the suburbs of a large city in the central South.

After an initial six-week acclimation period in the classroom the investigator observed, categorized, and recorded pupil-teacher interaction in the chosen classroom two days a week over a period of five weeks. Ladder Scale ratings of the pupils were obtained both before and after the observation-data collection period.

The Interaction Analysis data was totaled over the ten days, yielding frequency-of-occurrence totals for each of the pupils for each Flanders category and category group. On the basis of their combined Ladder Scale ratings, the pupils were assigned into one of three groups--Low ($N = 8$), Medium ($N = 14$), and High ($N = 11$).

The data were analyzed to determine the existing relationship between the interaction frequencies and the Ladder ratings.

Results

Examination of the differences between the means of the totals and subtotals for each of the rating groups utilizing the Newman Keul Test (Siegel, 1956) showed that in each case the Low group differed significantly from both the Middle and High group; the

Middle and High groups, however, did not differ significantly from each other.

Place Table 1 About Here

In order to test to see if differences among the groups might stem from random variations, a Kendall coefficient of concordance, W (Siegel, 1956), was computed to determine the degree of rank-order agreement among the three ratings groups over the 10 observation days. W, the coefficient of concordance, was computed on the data for each of the hypotheses. For each of the hypotheses that was confirmed (1, 2, and 4), the coefficient of concordance was significant beyond the .01 level, thus indicating that the differences in means resulted from non-random variation.

The hypotheses were tested using analysis of variance, with the following results:

Hypothesis	Rating Groups Compared	Flanders Category Tested	F
1	Low, Medium High	Sum Total 1 - 7	9.12*
2	Low, High	Sum 5 - 7	24.84*
3	Low, High	Sum 1 - 4	.41
4	Low, High	7	35.99*

* $p < .01$

Hypothesis 1 was confirmed...there are differences in the number of interactions that a teacher has with pupils whom she rates differently.

Hypothesis 2 was confirmed...the teacher does interact more directly with those pupils whom she rates low than with those whom she rates high.

Hypothesis 3 was not supported...though the teacher does interact indirectly fewer times with those pupils she rates low than with those she rates high, the differences are not significant at the established ($p < .05$) level.

Hypothesis 4 was confirmed...the teacher does use more criticism with those pupils whom she rates low than with those she rates high.

Conclusions

Before drawing conclusions on the basis of these results, consideration should be given to the potential limitations of the study and the steps taken to control them.

Due to the limited time available, only one teacher was involved in this initial study. The major emphasis was on obtaining a broad sample of interaction data for the one class, and thus extended periods of observation were employed over many weeks in order to assure representation of the great variety of classroom interaction situations. Though there was but a single observer-data collector, the investigator spent several days a week over a six-week period acquainting himself with the classroom, giving the class an opportunity to adjust to his presence, and practicing interaction recording. In order to reduce category conflicts as well as slow the rate of behavior coding/recording,

a necessity in light of the pupil-specific coding method used, the Flanders system was modified to make use of natural interaction units. The high Kendall coefficient of concordance attests to the reliability of the collected data.

Since this study deals with expectancy effects, the investigator made every effort to prevent their influence in this research. Dividing the pupils into Low, Medium, and High groups on the basis of the teacher's ratings was done by an independent researcher, and the pupils' group assignments were not available until all the data had been collected. Finally, in order to eliminate the effects of feedback on the generation of expectancies which might affect subsequent data collection, data were collated after the entire ten days' data had been collected.

Given the aforementioned safeguards, an analysis of the data indicated that the patterns of interaction that a teacher has with each pupil in her class is significantly related ($p \leq .01$) to her rating of the pupil. At least for this class, the relation between rating and interaction was clearly reflected in the greater overall number of interactions involving those pupils rated Low ($p < .01$). The differences in Teacher Talk were especially clear with respect to "Asking Questions" (Flanders, Category 4), "Giving Directions" (Flanders, Category 6), and "Criticizing or Justifying Authority" (Flanders, Category 7), all $p < .01$. Regarding "Pupil Talk," those pupils whom the teacher rated Low showed more Response behavior than either of the higher-rated groups ($p < .01$),

a likely finding given that the teacher directed more questions to the pupils in this group.

Implications

This study seems to have important implications with respect to both the methodology employed and the results.

Several techniques were employed which may prove valuable for further research in the schools. The emphasis placed on the recording of behavior in its naturally occuring units is compatible with the recent emphasis on ecological approaches to the study of behavior settings, e.g., the classroom. The use of pupil-specific interaction coding represents an all-too-rare effort to sensitize interaction analysis techniques to the individual pupil (vs. the class as the unit). And the utilization of the Ladder Rating Scale is unique in permitting the rater (in this case, the teacher) to specify her own judgmental dimensions rather than forcing her to react within the confines of concepts imposed by the investigator.

The results themselves indicate that observable verbal pupil-teacher interaction patterns may be at least one important medium for the communication of teacher expectancies in the classroom. Before any final conclusions can be drawn, though, several questions must be explored. For instance, what are the respective contributions of the teacher and the pupil to the observed interaction pattern differences? If interaction patterns are related to a teacher's expectancies, is there a common pattern associated with specific expectancies or does it differ from teacher to

teacher? More basically, what are the initial sources on which a teacher bases her expectancies--comments from previous teachers, past marks and test scores, or are expectancies veridically based, i.e., accurate reflection of each pupil's actual behavior and academic performance?

These questions can be answered and the role of classroom interaction patterns confirmed or challenged only through further research in the classroom.

References

Bany, M. A., & Johnson, L. U. Classroom group behavior. New York: Macmillan Co., 1966.

Beez, W. V. Influence of biased psychological reports on teacher behavior and pupil performance. Paper presented at the annual meeting of the American Psychological Association, San Francisco, 1968.

Brown, C., Manchild in the promised land. New York: Macmillan, 1965.

Clark, K. B. Dark ghetto. New York: Harper & Row, 1965.

Crescimbeni, J. Label or libel?: What happens when we categorize children? The Instructor, 1967, 76 (10), 21.

Dunn, L. M. Is much of special education (as we know it) obsolete? Unpublished paper, Peabody College, 1968.

Flanders, N. A. Teacher influence: Pupil attitudes and achievement. Minneapolis: University of Minnesota, 1960.

Flowers, C. E. Effects of an arbitrary accelerated group placement on the tested academic achievement of educationally disadvantaged students. Dissertation Abstracts, 1966, 27 (4A), 991.

Holt, J. How children fail. New York: Dell Publishing Co., 1964.

Jackson, P. W., & Lahaderne, H. H. Inequalities of teacher-pupil contacts. Psychology in the schools, 1967, 4 (3), 204-216.

Kilpatrick, F. P., & Cantril, H. Self-anchoring scaling--A measure of individual's unique reality worlds. Journal of Individual Psychology, 1960, 16, 158-173.

Medley, D. M , & Mitzel, H. E. Measuring classroom behavior by systematic observation. In N. L. Gage (Ed.), Handbook of research on teaching, 1963.

Orteza y Miranda, E. The language of the teacher. Journal of Teacher Education, 1967, 18 (4), 477.

Rosenthal, R. The effects of the experimenter on the results of psychological research. In B. A. Maher (Ed.), Progress in experimental personality research. New York: Academic Press, 1964.

Rosenthal, R., & Jacobson, L. Teachers' expectancies: Determinants of pupils' IQ gains. Psychological Reports, 1966, 19 (1), 115-118.

Rosenthal, R., & Jacobson, L. Self-fulfilling prophecies in the classroom: Teachers' expectations as unintended determinants of pupils' intellectual competence. Paper presented at the annual meeting of the American Psychological Association, Washington, D. C., 1967.

Rosenthal, R., & Jacobson, L. Pygmalion in the classroom. San Francisco: Holt, Rinehart, & Winston, Inc., 1968.

Siegel, S. Nonparametric statistics for the behavioral sciences. New York: McGraw-Hill, 1956.

Table 1

Summary of Interaction Data

(Totaled Across 10 Observation Days)

Flanders Category	Low (N=8)	Average (N=14)	High (N=11)	All Pupils: Total (N=33)	Whole Class
1	3	3	2	8	3
2	172	278	243	693	21
3	13	28	28	69	0
4	106	125	81	312	319
Subtotal (a)	294	434	354	1082	343
5	101	98	78	277	1066
6	169	204	154	527	237
7	375	227	90	692	43
Subtotal (b)	645	529	322	1496	1346
Teacher Talk (1-7)	939	963	676	2578	1689
8	222	252	162	636	0
9	310	228	233	771	2
Pupil Talk	532	480	395	1407	2
10					269
Total Inter-actions	1471	1443	1071	3985	1960

Total Interactions Recorded: 5945

a - Teacher-Indirect Influence

b - Teacher Talk-Direct Influence